

Exhibit 4

BenQ - Conference Camera (see Product List at end for models)

Infringement of the '242 patent

Claim 1	Evidence
1. A method of processing imaging signals, the method comprising:	<p>The BenQ conference camera performs a method of processing imaging signals.</p> <p>For example, the conference camera includes an image capturing system, an I/O interface (e.g. USB 2.0, USB 3.0, Ethernet), and control circuitry. The control circuitry performs camera control operations and interfaces imaging signals and data that are received from the image capturing system to provide image data to the I/O interface.</p>
receiving image data from an imaging array;	<p>The BenQ conference camera receives image data from an imaging array.</p> <p>For example, the image capturing system includes an image sensor (2MP, 8MP CMOS sensor, depending on the camera model). The image sensor includes an imaging array (e.g. 1920x1080, 3840x2160). The imaging array produces image data when exposed to light. The control circuitry receives the image data from the imaging array.</p>
storing the image data in a FIFO memory;	<p>The BenQ conference camera stores the image data in a FIFO memory.</p> <p>For example, the control circuitry includes a FIFO memory for storing image data. The image data received from the imaging array is stored in the FIFO memory by the control circuitry.</p>
updating a FIFO counter to maintain a count of the image data in the FIFO memory in response to memory reads and writes;	<p>The BenQ conference camera updates a FIFO counter to maintain a count of the image data in the FIFO memory in response to memory reads and writes;</p> <p>For example, the control circuitry includes a FIFO counter to keep a count of the image data, or "fill level", that is stored in the FIFO memory. When a unit of image data is written to the FIFO memory, the count of the FIFO counter is incremented. When a unit of image data is read from the FIFO memory, the count of the FIFO counter is decremented.</p>

comparing the count of the FIFO counter with a FIFO limit;	<p>The BenQ conference camera compares the count of the FIFO counter with a FIFO limit.</p> <p>For example, the control circuitry stores a number, which is a FIFO limit. The FIFO limit is associated with the FIFO memory. The control circuitry compares the FIFO limit to the count of the FIFO counter to determine if the amount of image data in the FIFO memory is at a “fill level” that will require image data to be transferred from the FIFO memory.</p>
generating an interrupt signal to request a processor to transfer image data from the FIFO memory in response to an interrupt enable signal being valid and the count of the FIFO counter having a predetermined relationship to the FIFO limit; and	<p>The BenQ conference camera generates an interrupt signal to request a processor to transfer image data from the FIFO memory in response to an interrupt enable signal being valid and the count of the FIFO counter having a predetermined relationship to the FIFO limit.</p> <p>For example, the control circuitry includes a processor for performing control, interfacing and other operations (e.g. image data compression and distortion correction). Servicing of interrupts by the processor can be enabled or disabled. When the servicing of interrupts is enabled, and the count of the FIFO counter has a predetermined relationship to the FIFO limit, the control circuitry generates an interrupt signal. The interrupt signal represents a request for the processor to transfer image data from the FIFO memory.</p>
transferring image data from the FIFO memory to the processor in response to the interrupt signal.	<p>The BenQ conference camera transfers image data from the FIFO memory to the processor in response to the interrupt signal.</p> <p>For example, when the processor receives the interrupt signal, the processor transfers the image data out of the FIFO memory and performs operations on the image data before outputting it over the I/O interface and storing it in internal storage.</p>

BenQ - Conference Camera (see Product List at end for models)

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Claim 8	Evidence
8. A method of processing imaging signals, the method comprising:	<p>The BenQ conference camera performs a method of processing imaging signals.</p> <p>For example, the conference camera includes an image capturing system, an I/O interface (e.g. USB 2.0, USB 3.0, Ethernet), and control circuitry. The control circuitry performs camera control operations and interfaces imaging signals and data that are received from the image capturing system to provide image data to the I/O interface.</p>
receiving image data from an imaging array;	<p>The BenQ conference camera receives image data from an imaging array.</p> <p>For example, the image capturing system includes an image sensor (2MP, 8MP CMOS sensor, depending on the camera model). The image sensor includes an imaging array (e.g. 1920x1080, 3840x2160). The imaging array produces image data when exposed to light. The control circuitry receives the image data from the imaging array.</p>
storing the image data in a FIFO memory;	<p>The BenQ conference camera stores the image data in a FIFO memory.</p> <p>For example, the control circuitry includes a FIFO memory for storing image data. The image data received from the imaging array is stored in the FIFO memory by the control circuitry.</p>
updating a FIFO counter to maintain a count of the image data in the FIFO memory in response to memory reads and writes;	<p>The BenQ conference camera updates a FIFO counter to maintain a count of the image data in the FIFO memory in response to memory reads and writes;</p> <p>For example, the control circuitry includes a FIFO counter to keep a count of the image data, or “fill level”, that is stored in the FIFO memory. When a unit of image data is written to the FIFO memory, the count of the FIFO counter is incremented. When a unit of image data is read from the FIFO memory, the count of the FIFO counter is decremented.</p>
comparing the count of the FIFO counter with a FIFO limit;	<p>The BenQ conference camera compares the count of the FIFO counter with a FIFO limit.</p> <p>For example, the control circuitry stores a number, which is a FIFO limit. The</p>

	FIFO limit is associated with the FIFO memory. The control circuitry compares the FIFO limit to the count of the FIFO counter to determine if the amount of image data in the FIFO memory is at a “fill level” that will require the control circuitry to take an action.
generating, in response to the count of the FIFO counter having a predetermined relationship to the FIFO limit, a bus request signal to request a bus arbitration unit to grant access to an output bus; and	<p>The BenQ conference camera generates, in response to the count of the FIFO counter having a predetermined relationship to the FIFO limit, a bus request signal to request a bus arbitration unit to grant access to an output bus.</p> <p>For example, the control circuitry includes a bus arbitration unit and a bus. When the count of the FIFO counter has a predetermined relationship to the FIFO limit, the control circuitry generates a bus request signal. The bus request signal represents a request for the bus arbitration unit to grant access to the bus for transferring image data from the FIFO memory.</p>
transferring image data from the FIFO memory to the output bus in response to receiving a grant signal from the bus arbitration unit.	<p>The BenQ conference camera transfers image data from the FIFO memory to the output bus in response to receiving a grant signal from the bus arbitration unit.</p> <p>For example, the bus arbitration unit monitors bus request signals that it receives and provides access to the bus in accordance with access criteria and bus availability. The bus arbitration unit provides a grant signal to give access to the bus. Upon receiving the grant signal, the control circuitry transfers the image data from the FIFO memory to the bus.</p>

Product List

DVB21 1080P Meeting Room Webcam
 DVB22 4K Digital Zoom Conference Camera
 DVB23 1080P PTZ Conference Camera
 DVB31 Zoom™ Certified Full HD Business Webcam
 DVB32 Zoom™ Certified Smart 4K UHD Conference Camera

VC01A 4K UHD Smart Video Bar

References

[1] DVY21/DVY22/DVY23

<https://www.benq.com/content/dam/bb/ap/product/signage/Accessory/BenQ-webcam-brochure.pdf>

[2] DVY32 Zoom™ Certified Smart 4K UHD Conference Camera

<https://www.benq.com/en-us/business/signage/dvy32.html>

[3] DVY31/DVY32/DVY23

https://www.benq.com/content/dam/bb/ap/product/signage/Accessory/dvy32/dvy31_dvy32_dvy23_camera_conference_datasheet.pdf

[4] VC01A 4K UHD Smart Video Bar

<https://www.benq.com/content/dam/bb/ap/product/signage/Accessory/vc01a/vc01a-smart-video-bar-brochure.pdf>